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14 November 1979

MEMORANDUM FOR THE RECORD

SUBJECT: SAC Briefing and Visit

1. General

On Wednesday and Thursday November 7-8 1979 the Strategic Air Command, 544 ARTW, provided a briefing to DASITT, in Omaha, of the major ADP-T system support to imagery processing as well as all-source intelligence production responsibility of the wing. Numerous SAC officers and enlisted personnel participated in these briefings. See the attached agenda for indication of the major players and comprehensive nature of this visit. DASITT attendees were:

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2. Data Flow and ADP-T Systems

The attachments to this memorandum include the SAC response to the preliminary data call and supporting information concerning three operational computer systems and one telecommunication system of moderate to large scale, the Operational Intelligence Support System (OISS), composed of five AN/GYQ-21V's intended to evolve into a two way internal/communications and routing capability at SAC and with external organizations via AUTODIN, IDHS-11, SOCOM and DDS. Additionally, more

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USAF review(s) completed.

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INTELLIGENCE SOURCES
AND METHODS INVOLVED

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detailed ADP descriptive has been placed in the SAC/PACER file, but is not distributed with this memo. The three major ADP systems operational at SAC are PACER, System 70 and TRICONS. The system of major interest to the DASITT is PACER. System 70 and TRICONS, though both make extensive use of the output of PACER, serve functions which only minimally (less than 5%) are associated with imagery ADP-T. This report shall thus concentrate primarily on PACER. Included also in the attachments is an out-of-date, yet still accurate depiction, of the Integrated Data Base environment which is the "heart" of PACER. The PACER Data Base is a collection of interconnected files and records (network structure) of approximately 500 million characters associated with 90 thousand installations (targets). Half of these characters serve link and control functions. These installations include almost all of those designated as COMIREX targets active for collection and/or exploitation. The "file" also includes a substantial number of installations of interest to SAC to support its SIOP responsibility and DOD delegated production effort for EOB Volume I, most AOB and offensive/defensive missile order-of-battle.

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3. ADP Operational Concept

It is difficult to quantify the magnitude of ADP-T in SAC associated with imagery processing. In many ways SAC has designed and operates its computer environment as an all-source intelligence system compatible with the information requirements and needs of its all-source analysts. Never-the-less, it is not arguable that the magnitude of information held within the PACER Data Base has been derived from imagery and that the capacity requirements of PACER seem directly proportional to the volume and timeliness of imagery which results from imagery satellite collection systems. PACER processing load is at least 75% related to two major PACER subsystems: PI support and Collection Management. While ELINT processing is a major activity at SAC, in PACER at least it serves primarily as an important collateral source for imagery exploitation functions and verification/validation data for all-source analysts relative SIOP and EOB delegated production. Conversely, System 70 is greater than 80% utilized for ELINT processing functions, using PHOTINT (output from PACER) as its primary collateral source. Plans are currently underway to replace and integrate both PACER and System 70 function with new computer hardware and software. Competitive solicitation and procurement is expected to be well underway in FY-80.

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4. Integrated, All-Source Imagery Exploitation



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5. Deficiencies, Problems and Issues

The major complaints heard at SAC were:

- * poor user response time of PACER
- * difficult to find out (from AIRES) the timely status of SAC collection requirements [REDACTED]
- * outmoded and difficult to maintain HW/SW associated with both PACER and System 70
- * concern with [REDACTED]
- * some concern with an increasing "national exploitation responsibility" without concurrent increases in IA resources and improved IA expertise.

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Excepting for the last point above, SAC believes that its planned IDHS-80 upgrade will solve its ADP-T deficiencies and provide access to supporting organization information in a more timely and suitable manner. These plans include wide spread access to AIRES and (via COINS) other data bases of interest; doubling of the number of remote inter-active stations (CRT) for their internal user to access, maintain, and monitor information in the PACER data base; and electrical transmission of appropriate information within and external to SAC to drastically

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minimize magnetic-tape interchange, double entry for requirements processing and timely receipt of ephemeral data and National Collection/Exploitation Requirements and Results. They would very much like to have a CAMS terminal, if only in read/query mode. And with the current AIRES capability, their request seems reasonable.

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6. Future

We discussed soft-copy exploitation and DDS in some detail. While some present equipment (hardware) and SAC internal imagery distribution delays were evident at this time, none of which seem mission limiting or without remedy, there seemed to be consensus that the quality of the imagery from the DDS was acceptable to SAC IA requirements. Most photo-interpreters indicated a non quantifiable reduction in NIIRS, though a few believed that the reduction in quality was nearly one (1), particularly with lower quality imagery of greater obliquity. Soft-Copy is not yet an issue. We were informed that SAC had opted to go with the IDEX system and watch progression in this area. Compass Preview will continue as a low-level R&D activity at SAC, but there is no intent to retain this system at SAC and integrate it into either PACER or a follow-on system as operational/production equipment supporting the imagery exploitation mission. SAC supports soft-copy equipment as useful to the substantive intelligence gain, yet clearly recognizes that the current costs of such equipment is excessive to that which can be justified in support of their present mission and function. Large numbers of soft-copy, high quality imagery display stations seems well down on the priority list of "things-to-do" at SAC.

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SAC admitted to minimal interest on requirements for precise mensuration except for a azimuth, coordinates and direction. Their present manual procedures seem adequate to their needs. Finally, some discussion concerning CATIS occurred with some PI's. Few seemed aware of this system. Nor does CATIS (S) seem an alternative in consideration of the present close working relationship of the PI's, all-source analysts, and collection managers. The access need to much of each others information and the PHOTINT/ELINT integration, achieved through the PACER network data base structure currently operational makes them think large scale ADP. The CATIS system (or some "n" number of same) could service the PI support activities of PACER or this function currently planned for IDHS-80. But it is unlikely that the resource costs of IDHS-80 would be appreciably reduced in light of a decision of this nature. In conclusion, SAC has elected to remain a substantially large-scale centralized ADP environment for the decade of the 80's.

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They will await the demonstration by some other organization of the first major installation of what is now under serious examination as a large-scale alternative, distributed computing and distributed data bases. They access and use the data of others but do not depend on this data to support their mission. SAC is not eager to provide external interactive access to the data which they maintain, but they frequently provide data to others in magnetic-tape form and through standard electrical message formats. [REDACTED]

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Attachment: a/s

Distribution:

Orig:

Copy

[REDACTED]

5 RM Registry

6 File Has attachment

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8 File has attachment

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1. Cross Reference

- a. Node Name: Strategic Air Command (SAC)
- b. Offutt Complex Participants:
 - (1) Headquarters, Strategic Air Command (SAC)
 - (2) 544 Strategic Intelligence Wing (SIW)
- c. ADP Systems
 - (1) Program-Assisted Console Evaluation and Review (PACER) System (Dual HIS 6080)
 - (2) System 70 (IBM 360/85)
 - (3) Operational Intelligence Support System (OISS) (5 AN/GYQ-21(V)s)
 - (4) Intelligence Data Handling System (IDHS) - 80
- d. Telecommunication Systems
 - (1) AUTODIN
 - (2) Intelligence Data Handling System Communications - II (IDHSC-II)
 - (3) Special Purpose Communication Link (SPCL)
 - (4) Defense Dissemination System (DDS)
- e. Incoming Data Bases
 - (1) Intelligence Reconnaissance Objectives File (IROF)
 - (2) Automated Intelligence Installation File (AIF)
- f. Outgoing Data Bases
 - (1) IROF Updates
 - (2) Delegated Production Updates
- g. Point of Contact: SAC DCS/Intelligence, Directorate of Plans, Automation Division, INXA, AV 271-6170, Major F. Williams.

2. Objectives:

a. The Joint Strategic Capabilities Plan includes the following mission objectives for the participants at this node.

(1) Force Posturing: Protection of SAC forces.

(2) Military Capabilities Planning: Development of the Single Integrated Operational Plan (SIOP), Limited Nuclear Options (LNO) and contingency plans.

(3) Force Structure Planning: Definition of future force requirements.

b. Offutt Complex Intelligence functions supporting above mission objectives span the entire intelligence cycle. Those functions related to imagery intelligence include:

(1) Collection

(a) Requirements Management

(b) Collection Accountability

(2) Exploitation

(a) Exploitation Management

1 Requirements Management

2 Exploitation Tasking

3 Exploitation Accountability

(b) Exploitation Operations

1 Imagery Interpretation

2 Dissemination of Interpretation Results

3 Mensuration Support

(3) Production

3. Program Participants

a. HQ SAC participating elements include:

(1) Deputy Chief of Staff (DCS), Intelligence manages SAC intelligence functions, including imagery-related activities.

(2) DCS/Data Systems manages, operates and programs computer systems handling intelligence information at the Offutt Complex.

b. 544 SIW exploits raw intelligence, analyzes all available sources of intelligence and produces imagery exploitation reports and finished intelligence for the Offutt Complex and selected worldwide consumers. The Special Security Office Communications Center operates the OISS communications subsystem.

4. Data Flow: Imagery data flow is graphically represented by the Imagery Data Flow Diagrams at Atch 1. The text will follow the diagram from left to right and from top to bottom.

a. Source nodes represent providing raw imagery and associated ephemeris data to the Offutt Complex.

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b. Inputs:

(1) System A provides daily inputs. Raw imagery is provided electrically and/or arrives by courier. Preliminary Exploitation (PE)/Current Exploitation (CE) reports and Exploitation Support Data (ESD) are electrically transmitted to the Offutt Complex via SPCL.

(2) System B and C provide inputs as available. Raw imagery (film) arrives by courier. Ephemeris is received by SPCL.

c. Collateral/Reference Data. The following sources/products facilitate Offutt Complex imagery - related data handling functions:

(1) DIA

(a) IROF

(b) AIF

(c) Installation/Order of Battle files via Community On-line Intelligence System (COINS) through IDHSC-II.

(d) National Basic Reference Graphic (NBRG)

(e) Automated Tactical Target Graphics (ATTG)
(produced by field commands)

(2) NPIC

(b) Immediate Photo Interpretation Report (IPIR), Supplemental PIR (SUPIR) and Multi-mission PIR (MIPIR).

(c) Highlight Cables.

(3) Imagery-derived products from worldwide agencies such as: DIA, 497 RTG, 548 RTG, 9 RTS, and FICEURLANT which may include:

(a) IPIR

(b) SUPIR

(c) MIPIR

(d) Periodic Summaries

(e) Basic Imagery Interpretation Briefs and Reports (BIIB & BIIR).

(f) Direct Support Imagery Interpretation Briefs and Reports (DSIIB & DSIIR).

(4) Imagery-related intelligence requirements generated by Offutt Complex agencies.

d. SAC Imagery Data Handling Functions (Discussion of functions will follow order of paragraph 2b. above):

(1) Imagery collection requirements management begins with identification of requirement by SAC Intelligence or 544 SIW to the SAC collection manager (INCR). Validated requirements are then entered into the SAC IROL.

(a) If time-sensitive need, Ad Hoc requirement submitted to DIA/CCF.

(b) If continuing need, submitted as new standing requirement to DIA/DC-5.

(c) Offutt Complex requirement status returned from DIA via IROF tape.

(2) Imagery collection accountability is determined by continuously comparing SAC requirements data with imagery exploitation results (to be discussed later) to determine requirement satisfaction.

(3) Exploitation requirements management begins with correlation of ephemeris data with SAC IROF exploitation requirements to determine which SAC objectives have been imaged.

(4) Pre-loading and category summary reports are produced to assist exploitation managers in the assignment of imagery interpretation tasks by section. Outstanding requirements are queued for presentation to the appropriate imagery interpreter on a terminal format.

(5) Exploitation accountability is determined by comparing exploitation requirements with imagery interpretation results (to be discussed below).

(6) Imagery interpretation begins with notice of film arrival and interpreter review of exploitation responsibility.

(a) Interpreter reviews his tasked installations at his PACER terminal, noting those due a report.

(b) Known descriptions of the installations and Essential Elements of Information (EEI) are reviewed. PACER-stored descriptions, from DIA AIF and previous interpretation results, including PE/CE reports, are reviewed.

(c) The interpreter may also review hard copy installation data, contained in IPIR, SUPIR and MIPIR from various sources, or from BIIB or BIIR. For ground force related installations, NBRGs/ATTGs are reviewed and referenced in PI reports per DIAM 57-5.

(d) COINS files may be queried, via OISS terminal, for various data such as additional imagery interpretation reports and installation data.

(e) After reviewing all known data, the interpreter views image on film and enters appropriate data into a preformatted PACER screen display.

(f) For any installation not requiring a report the interpreter reviews the imagery and normally creates a report if status changes are noted. Otherwise the installation is indexed, providing record of coverage.

(g) For airfields, an "R-95" annotated graphic is prepared for JSTPS target development. This report assists weapon allocation/damage assessment efforts.

(h) On a weekly basis, all locally created interpretation reports are consolidated into a hard copy "Dry MIPIR". The Dry MIPIR is used by exploitation managers to prepare final MIPIR for dissemination.

(7) Final MIPIRs are produced and disseminated to selected worldwide consumers through AUTODIN transmission, hard copy, or courier tape. Consumers include DIA, 497RTG, 548RTG, 9SRW, FTD and USEUCOM.

(8) Production interpretation reports are also used as sources for the following finished intelligence:

(a) Items of current intelligence interest for briefing to SAC Staff.

(b) Direct Support Imagery Interpretation Briefs (DSIIB) and Reports (DSIIR) for SAC and worldwide consumers.

(c) Delegated Production updates for SAC areas of responsibility, including Air and Missile Orders of Battle (OB). Updates are transmitted weekly: AIF data via AUTODIN and OB data via IDHSC-II. OB and airfield changes may also affect updates to the National Target Base and the Consolidated Air Defense Order of Battle, which are used in Single Integrated Operational Plan development.

(d) Special reports may be sent to various worldwide consumers describing new substantive intelligence based on interpretation results.

e. Imagery data flow outputs and receiving nodes are summarized as follows:

(1) Special reports of new substantive intelligence resulting from imagery interpretation efforts are disseminated, as available, to various worldwide consumers as AUTODIN messages.

(2) Imagery collection requirements are submitted to DIA in DD Form 1684 format.

(a) Ad hoc requirements are submitted as required by AUTODIN message.

(b) Standing requirements are forwarded weekly by AUTODIN.

(3) Direct Support Imagery Interpretation Reports and Briefs, (DSIIB) and DSIIR) are disseminated as hard copy products to selected worldwide consumers.

(4) Multimission Photo Interpretation Report (MIPIR) disseminated weekly via electrical transmission, hard copy, or magnetic tape to selected worldwide consumers.

5. Products are discussed in previous Data Flow section.

6. Timelines are discussed in Data Flow section.

7. ADP-T Support Utilized:

a. ADP Support is presented in the table at Atch 2.

b. Telecommunication Support is outlined in table at Atch 3.

8. Future Imagery Data Flow (through 1985):

a. Current planning anticipates performance of same functions in future as listed in paragraph 2b.

b. Major difference in future data flow is increased use of ADP and telecommunications.

(1) All ephemeris data to be electrically transmitted.

(2) Most internal Offutt Complex data to be reviewed at computer terminal.

(3) Most products to be disseminated electrically by message or bulk data. Maximum use of AUTODIN II. Maximum information resource and analysis tools will be integrated into a single work station.

(4) PACER and System 70 to be replaced by IDHS-80.

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ADP SUPPORT

<u>FUNCTION</u>	<u>SUBSYSTEM</u>	<u>HOST COMPUTER</u>
Collection Requirements Management	Collection Management	PACER/System 70
Collection Accountability	Photo Interpretation (PI)	PACER
Exploitation Requirements Management	PI	PACER
Exploitation Tasking	PI	PACER
Exploitation Accountability	PI	PACER
Imagery Interpretation	PI	PACER
Dissemination of Interpretation Results	PI	PACER/System 70

TELECOMMUNICATION SUPPORT

FUNCTION

COMM SYSTEM

Collection Requirements Management

AUTODIN

Collection Accountability

Mailed Tape

Exploitation Requirements Management

Mailed Tape

Exploitation Tasking

Internal

Exploitation Accountability

Internal

Imagery Interpretation

Internal

Dissemination of Interpretation Results

AUTODIN/Courier Tape

a. Cross Reference

- (1) Collection Management Subsystem
- (2) SAC/ADOIO - automation
- (3) SAC/INCR - User
- (4) ADP System Utilization
 - 2% of all On-line activity
 - 5% of Production (batch) processing
 - 8% of Data Base
- (5) Telecommunication System Utilization
 - Secure Phone (to DIA/CCF)
 - Autodin
 - IDHSC-II (Soon)
- (6, & 7) Product, Support Data Base
 - All source, integrated PACER data base
- (8) Capt Valusek, Hq SAC/INXA, Offutt AFB, Ne 68113
Auto 271-2515/6170

b. See data flow slides

c. ADP Functional Justification

SAC must perform imagery collection management in order to provide intelligence input to production of the National Target Base and Consolidated Air Defense Order of Battle for military capabilities planning, including SIOP development, contingency planning and limited Nuclear Option Planning. Military capabilities planning, and ADP support, thereto, is specifically tasked to SAC by the JCS via the Joint Strategic Capabilities Plan.

7. n. PACER

a. Cross Reference

- (1) Photo Interpretation Subsystem
- (2) SAC/ADOIO - Automation
- (3) 544/IEP - User
- (4) ADP System Utilization
 - 55% of all On-line activity
 - 20% Production (batch) processing
 - 40% Data Base
- (5) Telecommunication System Utilization (thru OISS)
 - Special Purpose Communication Line (SPCL)
 - Autodin (Soon)
 - IDHSC-II (Soon)
- (6,7) Product Data Bases
 - All source, integrated PACER data base
- (8) Capt Valuske, Hq SAC/INXA, Offutt AFB, NE 68113
Auto 271-2515/6170

b. See data flow slides

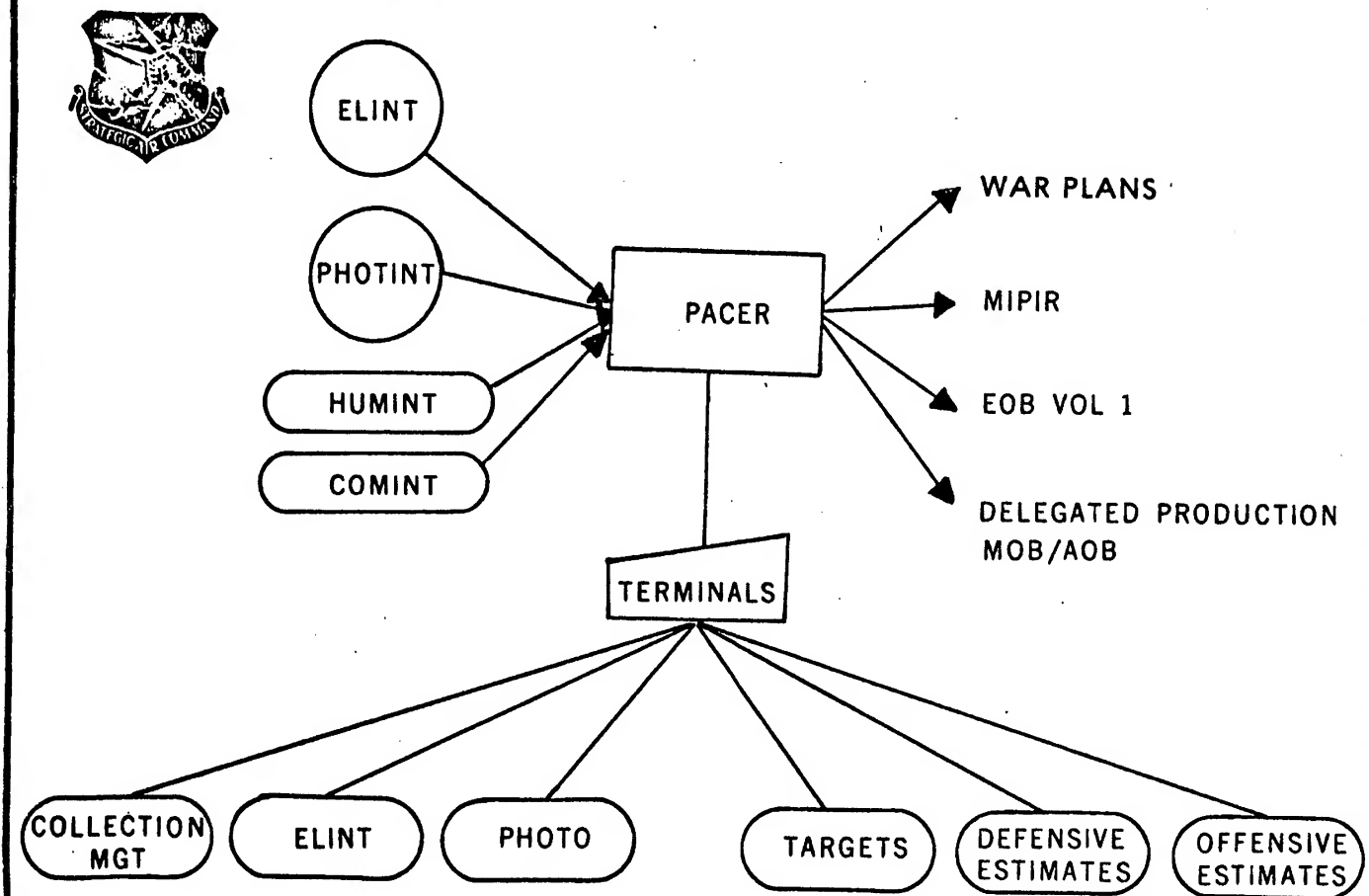
c. ADP Functional Justification

This subsystem is one of six that are completely interdependent. This subsystem and the ELINT processing subsystem represent the first step of a data flow that transform raw intelligence data into finished targeting and order of battle information. The entire system produces the intelligence input for the nation's war plan and is vitally dependent on the interactivity of the six subsystems to process the volumes of data input to the system. War

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planning, and specifically, ADP Support to JCS, is tasked
to SAC by JCS Via Joint Strategic Capabilities Plan (SSCP).

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SECURITY CLASSIFICATION	

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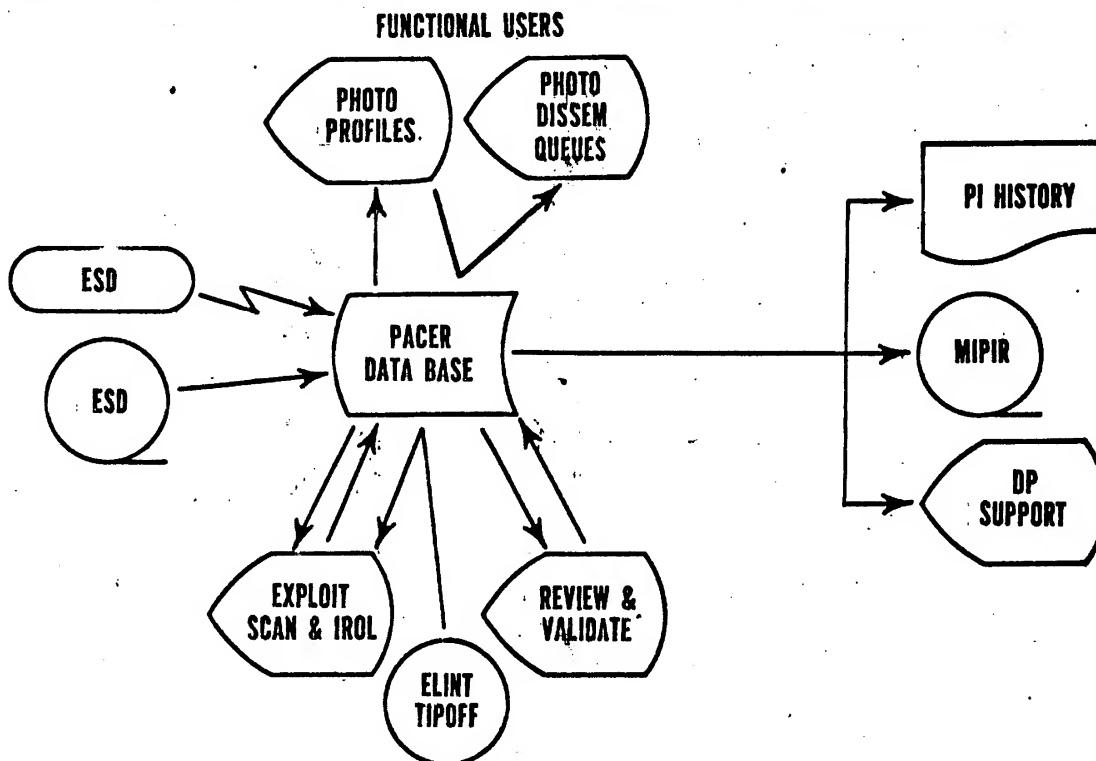


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PHOTO INTERPRETATION SUBSYSTEM

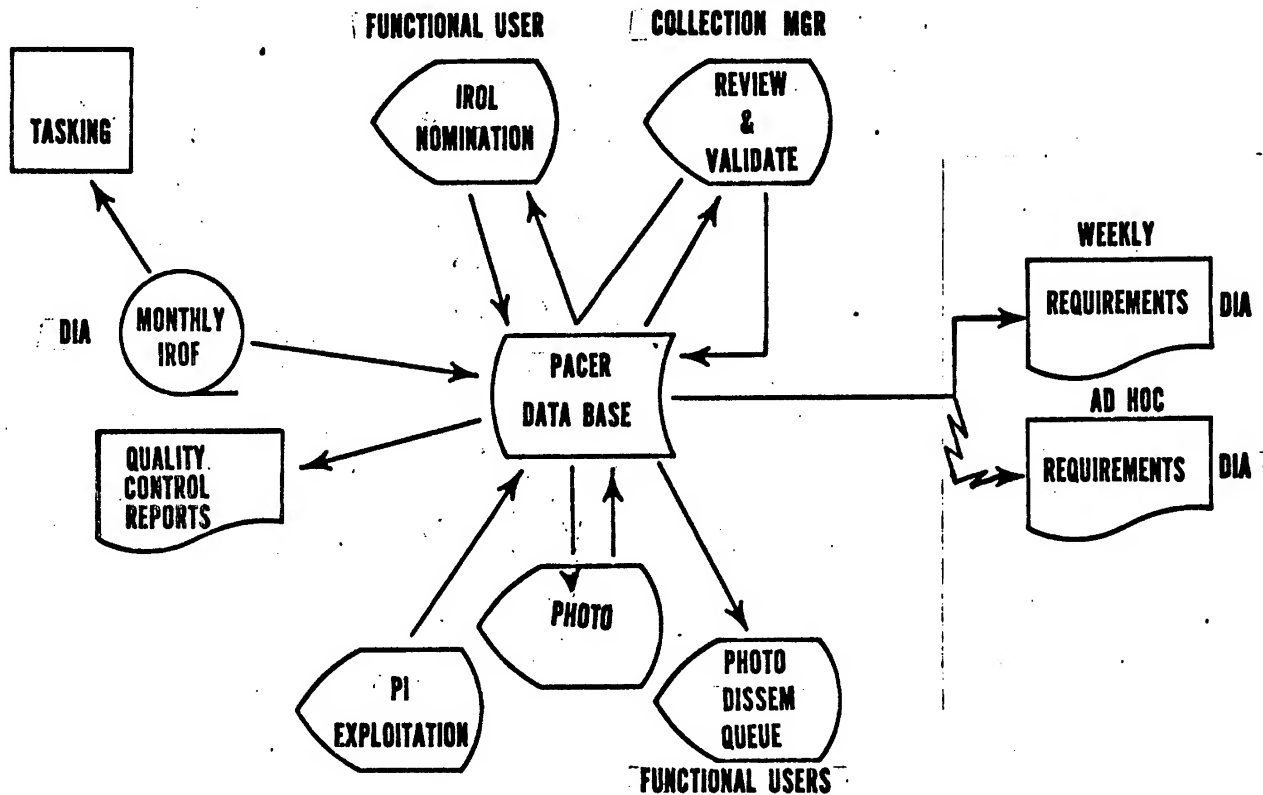


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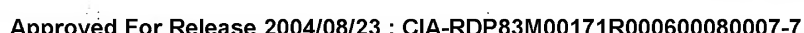
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COLLECTION MANAGEMENT SUBSYSTEM



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544 ARTW STAFF DIRECTORY

0 44 ARTW/DA, 6470

1979

COMMANDER (CC) - 2F16

Colonel David D. Anderson 2832 731-3459
 Lt. Johnson, Secretary 2832 -

OF THE VICE COMMANDER (CV) - 2F16

Colonel Charles R. Fox 3722 292-6981

VE (CCE) - 2F16

Colonel Hoyo 3722 734-3175
 Lt Coffey, Assistant 3174 291-9138
 Lt Fontenot, Historian (2F23) 2663 1-296-5232

ENLISTED ADVISOR (OAS) - 2F16

Sgt Hulsey 5364 291-0182

COMMANDER FOR OPERATIONS (DO) - BB16G

Colonel Glenn 2805 291-7990
 Lt Col Hazlett, Assistant 4484 292-5329
 Maj Staringer, ELINT 4484 734-2073
 Spt Strawn, Photo 4484 292-4557

STRATION DIVISION (DA) - 2F18

Colonel Vitton, Chief 2038 291-1803
 MSgt Lara, Deputy 6470 292-3648
 Sgt Richardson, Chief Adm Spt 3174 292-2311
 Sgt Germanson, Doc Manager 6470 331-3265
 Sgt Pacewicz, Admin Comm & Pstl 6140 291-0351

ICAT SERVICES DIVISION (DC) - Bldg 501

Mr. Erick, Chief 2214 895-1548
 Sgt Evans, Deputy 2214 291-4229
 MSgt Pace, NCOIC OSP 2214 292-0989
 Sgt Sundeen, Crypto Acct/Trg 5570 733-8856
 Sgt Novak, SSO Auto Com-Ops-SRC 2214 292-1450
 Sgt Nigh, Traffic Analysis/Pubs 2214 291-0332

TCS DIVISION (LG) - Bldg D

Mr Lamb, Chief 5186
 MSgt Posey, NCOIC 5186 291-4329
 MSgt McFadden, Administration 5186 291-7773

ef of Maintenance (LGM)

MSgt Hall, Chief 5110 291-8624
 MSgt Blair, Maint Supt 4005 291-4883
 MSgt Wilson, Maint Control 5372 219-2473

ICE MANAGEMENT (RM) - 2E14

Lowry, Chief 4555 331-5883
 Capt Bernstein, Asst. & Budget 4331 291-5450
 MSgt Moore, Management Analysis 4331 294-5814
 MSgt Douglas, Personnel 4555 292-5160
 MSgt Wells, Administration 4555 292-6138
 MSgt Price, Equipment 4555 291-4238

TORY DIVISION (TJ) - 1G6

Mr Kendrick, Chief 2331 292-2481
 Maj Alles, Deputy 2330 734-4252
 MSgt McAtee, Administration 2330 292-5892
 Capt Gillis, Analysis Branch 2482 331-5482
 Capt Prola, Minuteman III Br 4560 291-0291
 Capt Lane, MM II/Titan II 6042 291-3723
 Capt Minor, Production Branch 4403 291-9329

ARTERS SQUADRON SECTION (COQ) - Bldg 586

Sgt Starnes, Commander 5815 291-4277
 MSgt Talley, First Sergeant 5814 366-2753

Administration

Sgt Fred, Executive Spt Officer 5814 731-9512
 MSgt Jenkins, NCOIC 5814 339-8488

544 INTELLIGENCE ANALYSIS SQUADRON - 2F23

Lt Col Anselmo, Commander 2247 292-4356
 Lt. Col Ross, Operations Officer 2996 426-5334
 Mrs. Walters, Secretary 2930 734-2745
 MSgt Podoll, First Sergeant 2930 292-2872

Unit Administration (CCE) - 2F23

1Lt Christensen, Exec Spt Officer 2930 292-6423
 MSgt O'Flaherty, NCOIC 2650 292-4425
 TSgt Morgan, Training 2650 292-6801

Estimates Branch (IAE) - BB16

Lt Col Carteaux, Chief 4890 291-7955

Applications Branch (IAA) - BA-3

Lt Col Haupt, Chief 2153 592-2875

Targets Branch (IAT) - BB16

Lt Col Smith, Chief 4950 331-8052

Library Branch (IAL) - BB16

MSgt Brewer, NCOIC 6140 291-6071

544 INTELLIGENCE EXPLOITATION SQUADRON - 2E12

Lt Col O'Leary, Commander 6015 731-0241
 Lt Col Ditch, Ops Officer BAs 2285 339-9131
 Mrs. Hudson, Secretary 6015 554-1326
 MSgt Sullivan, First Sergeant 5279 292-0249
 Maj Reppe, Plans & Programs BAs 2285 592-1672

Unit Administration (CCE) - 2E12

Capt Cash, Exec Spt Officer 5209 291-5184
 TSgt Carter, NCOIC 4787
 MSgt Robertson, Training 5279 895-3064

ELINT Processing Branch (IEB) - 2G6

Lt Col Sonma, Chief 3622 339-9131

Imagery Interpretation Branch (IEP) - BB16

Lt Col MacCraw, Chief 2002 291-4355

544 TARGET MATERIALS SQUADRON - Bldg D

Lt Col Baulch, Commander 5689 292-2916
 Lt Col Walton, Ops Officer 3266 292-2348
 Mrs. Strickler, Secretary 5689 292-2938
 MSgt Robinson, First Sergeant 4872 731-2897

Unit Administration (CCE)

Capt Brice, Exec Spt Officer 2526 291-2433
 SMSgt Kent, NCOIC 2526 291-6027
 TSgt Johnson, Training 4833 291-8635

Air Target Materials Branch (TGOM)

Lt Col Walton, Chief 2040 292-2348
 MSgt Crompton, NCOIC 3070 292-1291

Photo Services Branch (TGOP)

Maj Douglas, Chief 2311 292-3165
 SMSgt Haga, NCOIC 2311 1-296-4323

Material Management Branch (TGOR)

Capt Ratkewitz, Chief 4852 292-3263
 SMSgt Oxford, NCOIC 4852 291-5783

Special Activities Branch (TGOS)

Maj Shultz, Chief 3056 292-2749
 MSgt Darby, NCOIC 3056 292-5610

Visual Presentation Branch (TGOV)

Lt Hilton, Chief 3935 292-3145
 MSgt Doran, Supt 3935 292-3716

Photo Work Order Desk

5021

Graphics Work Order Desk

3064

Production Management Branch (TGOX)

MSgt Fowler, NCOIC 2279 291-4773

DET 1, 544 ARTW, Bolling AFB, DC 20332 (AV 297)

Lt Col Hooper, Commander 5336 (703) 971-0749

TSgt Kennedy, Admin 4327 (202) 248-4211

SPECIAL STAFF

Capt Coffey (OI) 3174
 Capt Fred (Jr Off Co) 5814

Capt Laughton, Sec 2366
 Capt Lueta (SE) 2899

Lt Col Vitton (Security Manager) 2038

BRIEFINGS/TOURS

SrA Thompson, Coord 5874

ADAGE 5022

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TRJ 3396

Trajectory 3384

BB20 Schedule 2635

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THE WASHINGTON POST

Sunday, November 11, 1979

G7

Fight Flares On Computer Fire Safety

By Ted Knutson

Special to The Washington Post

Some key federal computer people are getting ready to take on the General Services Administration in a fire extinguisher fight.

Your next check from Uncle Sam is part of their ammunition.

Last year the GSA reaffirmed its long-standing mandate that sprinkler systems be used almost exclusively to protect federal computers from fire.

And recently GSA's accident and fire protection director, Or Miasch, said, "We are sold 100 percent on sprinklers."

The wisdom of that policy is being called into question increasingly by major federal computer users, particularly after the sprinklers at the Census Bureau's computer center in Suitland went off accidentally on Aug. 8. That incident cost the Census Bureau more than \$200,000, and two of its major computers still are incapacitated. It has caused some federal computer officials to wonder if the answer to fire protection is a gas, Du Pont's Halon 1301.

The latest flooding of the Census facility, however, has not been water but an onslaught of computer operators from nearly every major federal agency who are interested in getting information to support the installation of Halon in their own data rooms, according to Census computer chief Thomas DiNenna.

The agency that writes nearly all government checks, the disbursements division of the Treasury Department, began its inquiry earlier this year into whether to use Halon.

Officials from the eight federal disbursement centers across the nation saw a demonstration of the Halon system in May at a meeting in St. Louis.

Since then, disbursements has begun a study—due Dec. 15—on its entire computer security operations, including fire safety. One official said he expects the report will recommend Halon for any new buildings the agency might move into, but he doubts if the report would call for adding the system to present facilities.

Disbursements chief Robert Burrill said he's worried about sprinklers because they could "damage the equipment, damage the tape and the whole works."

Just the operation of the sprinklers alone could delay checks, although there are backup systems and duplicate files in most instances.

Census computer chief DiNenna said the problems caused by water in his computers are similar to what would

happen if you used water to put out a fire in your television: rust, corrosion and shorts and, because water is a good conductor, electricity would be going places it shouldn't.

Because the sprinklers most often are activated when temperatures at the ceiling reaches 160 degrees Fahrenheit, damage may occur even before the sprinkler system reacts.

"By the time the sprinklers go off, we know that piece of equipment is gone," said Jack Barritt, a fire engineer of the National Fire Protection Association committee that writes computer fire safety standards for the national fire code.

Halon systems react faster than water because they usually are activated by smoke detectors, and Halon proponents say the substance doesn't damage the equipment.

But they remain in the minority of the leadership of the National Fire Prevention and Control Administration which wrote the GSA's bible on computer safety, the standard practice for the fire protection of essential electronic equipment operations, commonly known as RP-1.

In two pages giving the rationale for the preferred use of water, the report states water is the best protection against "major catastrophe."

Edwin West Jr., a NASA aerospace engineer and chairman of the NFPCA committee that wrote the report, said water prevents the rekindling of a fire by staying in place and removing heat, which Halon doesn't do. He also characterized Halon as potentially toxic, but a quick survey of major federal health agencies didn't reveal any instances where Halon gas had injured someone during a fire.

Ed Murphy, a spokesman at the Center for Disease Control in Atlanta, said the Navy has some studies showing that Halon could cause respiratory irritation, but he characterized the problem as slight.

West said the Census accident doesn't diminish the value of sprinkler systems because it was caused by human error. He said he has heard from investigators that the accident was caused by someone accidentally turning on a water valve and because sprinkler heads that should have stopped the flow of water in the absence of heat hadn't been installed properly.

Most computer fires have started outside of the central unit. There are documented cases of arson where a fire has started in an adjacent room.

The GSA's major objection to Halon appears to be cost. Halon systems usually cost nearly double water sprinkler systems. Halon also has to be recharged after every use, and one official said there is no way to test the system without depleting the gas.

Those who promote Halon contend, however, that the extra cost—amounting in the low tens of thousands—is worth it to protect a million-dollar computer.